Specification for replacing windows at the KDOT Area 4 Office. The building is located at 101 Gage Blvd, Topeka, Kansas 66606

The scope of this project is to remove **6** existing windows and replace them with single sliding bronze colored aluminum windows .

1. Windows shall meet or exceed the attached specification of the Manko 6035 Series window. A copy of the specification is attached for information only.
2. Contractor shall be responsible for measuring for windows.
3. Contractor shall be responsible for disposal of the old windows and any construction debris.

4. Job site visits may be arranged by contacting Larry Rohr at 785-296-2291.

Approximate Window Sizes:

6 – 48" x 36 "

SECTION 08 5113 - ALUMINUM WINDOWS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes Heavy-Commercial Grade aluminum windows of the performance class indicated. Window types required include the following:

1. Sliding.

1.3 PERFORMANCE REQUIREMENTS

A. General: Provide aluminum windows engineered, fabricated, and installed to withstand normal thermal movement, wind loading, and impact loading without failure, as demonstrated by testing manufacturer's standard window assemblies representing types, grades, classes, and sizes required for Project according to test methods indicated.

B. Test Criteria: Testing shall be performed by a qualified independent testing agency based on the following criteria:

1. Test Procedures: Test window units according to ASTM E 283 for air infiltration, ASTM E 547 for water penetration, and ASTM E 330 for structural performance.

2. Test Procedures: Test window units according to ASTM E 283 for air infiltration, both ASTM E 331 and ASTM E 547 for water penetration, and ASTM E 330 for structural performance.

C. Performance Requirements: Testing shall demonstrate compliance with requirements indicated in AAMA 101 for air infiltration, water penetration, and structural performance for type, grade, and performance class of window units required. Where required design pressure exceeds the minimum for the specified window grade, comply with requirements of AAMA 101, Section 3, "Optional Performance Classes," for higher than minimum performance class.

1.4 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product Data for each type of window required, including the following:

1. Construction details and fabrication methods.

2. Profiles and dimensions of individual components.

3. Data on hardware, accessories, and finishes.

4. Recommendations for maintaining and cleaning exterior surfaces.

C. Shop Drawings showing fabrication and installation of each type of window required including information not fully detailed in manufacturer's standard Product Data and the following

1. Layout and installation details, including anchors.

2. Elevations at 1/4 inch = 1 foot (1:50) scale and typical window unit elevations at 3/4 inch = 1 foot (1:20) scale.

3. Full-size section details of typical composite members, including reinforcement and stiffeners.

4. Location of weep holes.

5. Panning details.

6. Hardware, including operators.

7. Glazing details.

D. Samples for initial color selection on 12-inch- (300-mm-) long sections of window members. Where finishes involve normal color variations, include Sample sets showing the full range of variations expected.

E. Test reports from a qualified independent testing agency indicating that each type, grade, and size of window unit complies with performance requirements indicated based on comprehensive testing of current window units within the last 5 years. Test results based on use of down-sized test units will not be accepted.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who has completed installation of aluminum windows similar in material, design, and extent to those required for this Project and with a record of successful in-service performance.

B. Single-Source Responsibility: Obtain aluminum windows from one source and by a single manufacturer.

1.6 PROJECT CONDITIONS

A. Field Measurements: Check window openings by field measurements before fabrication and show recorded measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.7 WARRANTY

A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

B. Special Warranty: Submit a written warranty signed by aluminum window manufacturer agreeing to repair or replace window components that fail in materials or workmanship within the specified warranty period. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, water leakage, air infiltration, or condensation.

2. Faulty operation of sash and hardware.

3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

C. Warranty Period: 2 years (10 years for insulated glass seal failure) from date of accetance against defective materials or workmanship, including substantial non-compliance with applicable specification requirements and industry standards, which results in premature failure of the window, finish, factory glazed glass, or parts , outside of normal wear.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:

1. Horizontal Sliding Window, 3 1/4" Thermally Broken:

   a. Graham Architectural Product / Model 200
   b. Manko Window Systems / 6035
   c. Peerless Products, Inc. / Series 9530

2.02 MATERIALS:

A. Aluminum: Extruded aluminum shall be 6063-T5 or 6063-T6 alloy and tempered.

B. Head and Jamb Member Wall Thickness: .062" minimum.

C. Sill Member Wall Thickness: 094" minimum.

D. Glazing: Pre-glaze all units at the factory with dual glazing (Guardian Sash) as follows:

1. Exterior Primary Glaze: ¼" glass, Bronze tint. Marine glaze on the exterior sash.

2. Interior Secondary Glazing: ¼" glass, Clear. Marine glass interior glazing and hinged with stainless steel retractable pivot hardware for cleaning, access to interior cavity and removal of secondary Guardian panel. Fabricate sash of a hollow extruded section with a minimum wall thickness of 0.062 inches, miter cut reinforced with a cast corner key for strength and ease of repair.

3. Glaze units to allow for glass replacement without the use of special tools.

E. Thermal Barrier: All exterior aluminum shall be separated from interior aluminum by a rigid, structural thermal barrier. For purposes of this Specification, a structural thermal barrier is defined as a system that shall transfer shear during bending and, therefore, promote composite action between the exterior and interior extrusions. All members are thermally broken using the latest technology in two part, high density polyurethane. A nonstructural thermal barrier is unacceptable.

E. All sealants shall comply with applicable provisions of AAMA 800 and /or Federal Specification FS-TT-001 and 002 Series.

F. Hardware:

1. Rollers: tandem stainless steel 3/4" rollers, field adjustable tandem rollers and stainless steel roller cap track.

2. Locks: white bronze cam action sweep latches; one per meeting rail.

3. Pull Handles: provide integral pull handles on sash.

G. Weather Stripping:

1. Dual durometer PVC, neoprene, EPDM or other suitable material as tested and approved by the window manufacturer.

2. Bulb type at exterior vent members.

H. Receptors/Sill Starter:

1. Provide extruded aluminum receptors to receive windows as shown on drawings. Finish to match window frames.

I. Insect Screens:

1. Tubular extruded aluminum frames shall meet the requirements of ANSI/SMA 1004. Finish to match window frames.

2. Aluminum cloth shall comply with GSA-FS-RR-W-365 and USDC-CS-138 with 18x16 mesh. Cloth color shall be charcoal gray.

2.03 FABRICATION

A. Finish, fabrication and shop assemble frame and sash members into complete window units under the responsibility of one manufacturer.

B. No bolts, screws or fastenings to bridge thermal barrier or impair independent frame movement.

C. Frame: Frame components shall be mechanically fastened each horizontal into vertical mullions through screw spline construction leaving only hairline joinery, then seal weather tight.

D. Screen frame must not protrude from exterior of window frame.

2.04 FINISHES

A. Comply with NAAMM "Metal Finishes Manual" for recommendations relative to applying and designating finishes.

B. Finish designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.

C. Finish:

1. High–performance Organic Coating Finish: AA-M12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid chromate-fluoride-phosphate conversion coating: organic Coating: as specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's instructions.

a. Fluoropolymer 2-Coat Coating System: Kynar 500/Hylar 500 Fluropon, 2-coat thermocured system composed of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2605

b. Color and Gloss: As selected by Architect from Manufacturer's full range of choices for color and gloss.

PART 3 - EXECUTION

3.01 INSPECTION

A. Inspect openings before installation. Verify that rough opening is correct and sill plate is level.

3.02 INSTALLATION

A. Install windows with skilled tradesman in exact accordance with approved shop drawings, installation instructions, specifications and AAMA 101/I.S.2.

B. Set window units plumb, level, and true to line, without warp or rack of frames or sash. Provide proper support and anchor securely in place.

1. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials by complying with requirements specified under "Dissimilar Materials" Paragraph in appendix to AAMA 101.

3.03 CLEANING

A. Clean aluminum surfaces promptly after installing windows. Exercise care to avoid damage to protective coatings and finishes. Remove excess glazing and sealant compounds, dirt, and other substances. Lubricate hardware and other moving parts.

B. Clean glass of preglazed units promptly after installing windows. Comply with requirements of Division 8 Section "Glazing" for cleaning and maintenance.

3.01 PROTECTION

A. Provide final protection and maintain conditions, in a manner acceptable to aluminum window manufacturer, that ensure window units are without damage or deterioration at the time of Substantial Completion.

END OF SECTION 08 5113